

1643

## RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/502,698

DATE: 07/05/2000

TIME: 12:52:37

Input Set : A:\Sequence.txt

Output Set: N:\CRF3\07052000\I502698.raw

ENTERED

4 <110> APPLICANT: Funahashi, Shin-ichi  
 5 Miyata, Shoji  
 7 <120> TITLE OF INVENTION: PROTEIN HAVING PDZ DOMAIN SEQUENCE  
 9 <130> FILE REFERENCE: 06501/056001  
 11 <140> CURRENT APPLICATION NUMBER: US 09/502,698  
 12 <141> CURRENT FILING DATE: 2000-02-11  
 14 <150> PRIOR APPLICATION NUMBER: PCT/JP98/03603  
 15 <151> PRIOR FILING DATE: 1998-08-12  
 17 <150> PRIOR APPLICATION NUMBER: JP 10/189944  
 18 <151> PRIOR FILING DATE: 1998-06-19  
 20 <150> PRIOR APPLICATION NUMBER: JP 09/230356  
 21 <151> PRIOR FILING DATE: 1997-08-12  
 23 <160> NUMBER OF SEQ ID NOS: 93  
 25 <170> SOFTWARE: FastSEQ for Windows Version 4.0  
 27 <210> SEQ ID NO: 1  
 28 <211> LENGTH: 1373  
 29 <212> TYPE: PRT  
 30 <213> ORGANISM: Homo sapiens  
 32 <400> SEQUENCE: 1  
 33 Met Val Cys Cys Arg Arg Thr Val Pro Pro Thr Thr Gln Ser Glu Leu  
 34 1 5 10 15  
 35 Asp Ser Leu Asp Leu Cys Asp Ile Glu Leu Thr Glu Lys Pro His Val  
 36 20 25 30  
 37 Asp Leu Gly Glu Phe Ile Gly Ser Glu Thr Glu Asp Pro Val Leu  
 38 35 40 45  
 39 Ala Met Thr Asp Ala Gly Gln Ser Thr Glu Glu Val Gln Ala Pro Leu  
 40 50 55 60  
 41 Ala Met Trp Glu Ala Gly Ile Gln His Ile Glu Leu Glu Lys Gly Ser  
 42 65 70 75 80  
 43 Lys Gly Leu Gly Phe Ser Ile Leu Asp Tyr Gln Asp Pro Ile Asp Pro  
 44 85 90 95  
 45 Ala Ser Thr Val Ile Ile Ile Arg Ser Leu Val Pro Gly Gly Ile Ala  
 46 100 105 110  
 47 Glu Lys Asp Gly Arg Leu Leu Pro Gly Asp Arg Leu Met Phe Val Asn  
 48 115 120 125  
 49 Asp Val Asn Leu Glu Asn Ser Ser Leu Glu Glu Ala Val Glu Ala Leu  
 50 130 135 140  
 51 Lys Gly Ala Pro Ser Gly Thr Val Arg Ile Gly Val Ala Lys Pro Leu  
 52 145 150 155 160  
 53 Pro Leu Ser Pro Glu Glu Gly Tyr Val Ser Ala Lys Glu Asp Ser Phe  
 54 165 170 175  
 55 Leu Tyr Pro Pro His Ser Cys Glu Glu Ala Gly Leu Ala Asp Lys Pro  
 56 180 185 190  
 57 Leu Phe Arg Ala Asp Leu Ala Leu Val Gly Thr Asn Asp Ala Asp Leu  
 58 195 200 205  
 59 Val Asp Glu Ser Thr Phe Glu Ser Pro Tyr Ser Pro Glu Asn Asp Ser  
 60 210 215 220

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```

61 Ile Tyr Ser Thr Gln Ala Ser Ile Leu Ser Leu His Gly Ser Ser Cys
62 225 230 235 240
63 Gly Asp Gly Leu Asn Tyr Gly Ser Ser Leu Pro Ser Ser Pro Pro Lys
64 245 250 255
65 Asp Val Ile Glu Asn Ser Cys Asp Pro Val Leu Asp Leu His Met Ser
66 260 265 270
67 Leu Glu Glu Leu Tyr Thr Gln Asn Leu Leu Glu Arg Gln Asp Glu Asn
68 275 280 285
69 Thr Pro Ser Val Asp Ile Ser Met Gly Pro Ala Ser Gly Phe Thr Ile
70 290 295 300
71 Asn Asp Tyr Thr Pro Ala Asn Ala Ile Glu Gln Gln Tyr Glu Cys Glu
72 305 310 315 320
73 Asn Thr Ile Val Trp Thr Glu Ser His Leu Pro Ser Glu Val Ile Ser
74 325 330 335
75 Ser Ala Glu Leu Pro Ser Val Leu Pro Asp Ser Ala Gly Lys Gly Ser
76 340 345 350
77 Glu His Leu Leu Glu Gln Ser Ser Leu Ala Cys Asn Ala Glu Cys Val
78 355 360 365
79 Met Leu Gln Asn Val Ser Lys Glu Ser Phe Glu Arg Thr Ile Asn Ile
80 370 375 380
81 Ala Lys Gly Asn Ser Ser Leu Gly Met Thr Val Ser Ala Asn Lys Asp
82 385 390 395 400
83 Gly Leu Gly Met Ile Val Arg Ser Ile Ile His Gly Gly Ala Ile Ser
84 405 410 415
85 Arg Asp Gly Arg Ile Ala Ile Gly Asp Cys Ile Leu Ser Ile Asn Glu
86 420 425 430
87 Glu Ser Thr Ile Ser Val Thr Asn Ala Gln Ala Arg Ala Met Leu Arg
88 435 440 445
89 Arg His Ser Leu Ile Gly Pro Asp Ile Lys Ile Thr Tyr Val Pro Ala
90 450 455 460
91 Glu His Leu Glu Glu Phe Lys Ile Ser Leu Gly Gln Gln Ser Gly Arg
92 465 470 475 480
93 Val Met Ala Leu Asp Ile Phe Ser Ser Tyr Thr Gly Arg Asp Ile Pro
94 485 490 495
95 Glu Leu Pro Glu Arg Glu Glu Gly Glu Gly Glu Ser Glu Leu Gln
96 500 505 510
97 Asn Thr Ala Tyr Ser Asn Trp Asn Gln Pro Arg Arg Val Glu Leu Trp
98 515 520 525
99 Arg Glu Pro Ser Lys Ser Leu Gly Ile Ser Ile Val Gly Gly Arg Gly
100 530 535 540
101 Met Gly Ser Arg Leu Ser Asn Gly Glu Val Met Arg Gly Ile Phe Ile
102 545 550 555 560
103 Lys His Val Leu Glu Asp Ser Pro Ala Gly Lys Asn Gly Thr Leu Lys
104 565 570 575
105 Pro Gly Asp Arg Ile Val Glu Ala Pro Ser Gln Ser Glu Ser Glu Pro
106 580 585 590
107 Glu Lys Ala Pro Leu Cys Ser Val Pro Pro Pro Pro Ser Ala Phe
108 595 600 605
109 Ala Glu Met Gly Ser Asp His Thr Gln Ser Ser Ala Ser Lys Ile Ser

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```

110      610      615      620
111 Gln Asp Val Asp Lys Glu Asp Glu Phe Gly Tyr Ser Trp Lys Asn Ile
112 625      630      635      640
113 Arg Glu Arg Tyr Gly Thr Leu Thr Gly Glu Leu His Met Ile Glu Leu
114      645      650      655
115 Glu Lys Gly His Ser Gly Leu Gly Leu Ser Leu Ala Gly Asn Lys Asp
116      660      665      670
117 Arg Ser Arg Met Ser Val Phe Ile Val Gly Ile Asp Pro Asn Gly Ala
118      675      680      685
119 Ala Gly Lys Asp Gly Arg Leu Gln Ile Ala Asp Glu Leu Leu Glu Ile
120      690      695      700
121 Asn Gly Gln Ile Leu Tyr Gly Arg Ser His Gln Asn Ala Ser Ser Ile
122 705      710      715      720
123 Ile Lys Cys Ala Pro Ser Lys Val Lys Ile Ile Phe Ile Arg Asn Lys
124      725      730      735
125 Asp Ala Val Asn Gln Met Ala Val Cys Pro Gly Asn Ala Val Glu Pro
126      740      745      750
127 Leu Pro Ser Asn Ser Glu Asn Leu Gln Asn Lys Glu Thr Glu Pro Thr
128      755      760      765
129 Val Thr Thr Ser Asp Ala Ala Val Asp Leu Ser Ser Phe Lys Asn Val
130      770      775      780
131 Gln His Leu Glu Leu Pro Lys Asp Gln Gly Gly Leu Gly Ile Ala Ile
132 785      790      795      800
133 Ser Glu Glu Asp Thr Leu Ser Gly Val Ile Ile Lys Ser Leu Thr Glu
134      805      810      815
135 His Gly Val Ala Ala Thr Asp Gly Arg Leu Lys Val Gly Asp Gln Ile
136      820      825      830
137 Leu Ala Val Asp Asp Glu Ile Val Val Gly Tyr Pro Ile Glu Lys Phe
138      835      840      845
139 Ile Ser Leu Leu Lys Thr Ala Lys Met Thr Val Lys Leu Thr Ile His
140      850      855      860
141 Ala Glu Asn Pro Asp Ser Gln Ala Val Pro Ser Ala Ala Gly Ala Ala
142 865      870      875      880
143 Ser Gly Glu Lys Lys Asn Ser Ser Gln Ser Leu Met Val Pro Gln Ser
144      885      890      895
145 Gly Ser Pro Glu Pro Glu Ser Ile Arg Asn Thr Ser Arg Ser Ser Thr
146      900      905      910
147 Pro Ala Ile Phe Ala Ser Asp Pro Ala Thr Cys Pro Ile Ile Pro Gly
148      915      920      925
149 Cys Glu Thr Thr Ile Glu Ile Ser Lys Gly Arg Thr Gly Leu Gly Leu
150      930      935      940
151 Ser Ile Val Gly Gly Ser Asp Thr Leu Leu Gly Ala Phe Ile Ile His
152 945      950      955      960
153 Glu Val Tyr Glu Glu Gly Ala Ala Cys Lys Asp Gly Arg Leu Trp Ala
154      965      970      975
155 Gly Asp Gln Ile Leu Glu Val Asn Gly Ile Asp Leu Arg Lys Ala Thr
156      980      985      990
157 His Asp Glu Ala Ile Asn Val Leu Arg Gln Thr Pro Gln Arg Val Arg
158      995      1000      1005

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```

159 Leu Thr Leu Tyr Arg Asp Glu Ala Pro Tyr Lys Glu Glu Glu Val Cys
160      1010      1015      1020
161 Asp Thr Leu Thr Ile Glu Leu Gln Lys Lys Pro Gly Lys Gly Leu Gly
162 1025      1030      1035      1040
163 Leu Ser Ile Val Gly Lys Arg Asn Asp Thr Gly Val Phe Val Ser Asp
164      1045      1050      1055
165 Ile Val Lys Gly Gly Ile Ala Asp Pro Asp Gly Arg Leu Ile Gln Gly
166      1060      1065      1070
167 Asp Gln Ile Leu Leu Val Asn Gly Glu Asp Val Arg Asn Ala Ser Gln
168      1075      1080      1085
169 Glu Ala Val Ala Ala Leu Leu Lys Cys Ser Leu Gly Thr Val Thr Leu
170      1090      1095      1100
171 Glu Val Gly Arg Ile Lys Ala Gly Pro Phe His Ser Glu Arg Arg Pro
172 1105      1110      1115      1120
173 Ser Gln Thr Ser Gln Val Ser Glu Gly Ser Leu Ser Ser Phe Thr Phe
174      1125      1130      1135
175 Pro Leu Ser Gly Ser Ser Thr Ser Glu Ser Leu Glu Ser Ser Ser Lys
176      1140      1145      1150
177 Lys Asn Ala Leu Ala Ser Glu Ile Gln Gly Leu Arg Thr Val Glu Met
178      1155      1160      1165
179 Lys Lys Gly Pro Thr Asp Ser Leu Gly Ile Ser Ile Ala Gly Gly Val
180      1170      1175      1180
181 Gly Ser Pro Leu Gly Asp Val Pro Ile Phe Ile Ala Met Met His Pro
182 1185      1190      1195      1200
183 Thr Gly Val Ala Ala Gln Thr Gln Lys Leu Arg Val Gly Asp Arg Ile
184      1205      1210      1215
185 Val Thr Ile Cys Gly Thr Ser Thr Glu Gly Met Thr His Thr Gln Ala
186      1220      1225      1230
187 Val Asn Leu Leu Lys Asn Ala Ser Gly Ser Ile Glu Met Gln Val Val
188      1235      1240      1245
189 Ala Gly Gly Asp Val Ser Val Val Thr Gly His His Gln Glu Pro Ala
190      1250      1255      1260
191 Ser Ser Ser Leu Ser Phe Thr Gly Leu Thr Ser Thr Ser Ile Phe Gln
192 1265      1270      1275      1280
193 Asp Asp Leu Gly Pro Pro Gln Cys Lys Ser Ile Thr Leu Glu Arg Gly
194      1285      1290      1295
195 Pro Asp Gly Leu Gly Phe Ser Ile Val Gly Gly Tyr Gly Ser Pro His
196      1300      1305      1310
197 Gly Asp Leu Pro Ile Tyr Val Lys Thr Val Phe Ala Lys Gly Ala Ala
198      1315      1320      1325
199 Ser Glu Asp Gly Arg Leu Lys Arg Gly Asp Gln Ile Ile Ala Val Asn
200      1330      1335      1340
201 Gly Gln Ser Leu Glu Gly Val Thr His Glu Glu Ala Val Ala Ile Leu
202 1345      1350      1355      1360
203 Lys Arg Thr Lys Gly Thr Val Thr Leu Met Val Leu Ser
204      1365      1370
206 <210> SEQ ID NO: 2
207 <211> LENGTH: 1005
208 <212> TYPE: PRT

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```

209 <213> ORGANISM: Homo sapiens
211 <400> SEQUENCE: 2
212 Met Leu Gln Asn Val Ser Lys Glu Ser Phe Glu Arg Thr Ile Asn Ile
213   1           5           10           15
214 Ala Lys Gly Asn Ser Ser Leu Gly Met Thr Val Ser Ala Asn Lys Asp
215           20           25           30
216 Gly Leu Gly Met Ile Val Arg Ser Ile Ile His Gly Gly Ala Ile Ser
217           35           40           45
218 Arg Asp Gly Arg Ile Ala Ile Gly Asp Cys Ile Leu Ser Ile Asn Glu
219           50           55           60
220 Glu Ser Thr Ile Ser Val Thr Asn Ala Gln Ala Arg Ala Met Leu Arg
221           65           70           75           80
222 Arg His Ser Leu Ile Gly Pro Asp Ile Lys Ile Thr Tyr Val Pro Ala
223           85           90           95
224 Glu His Leu Glu Glu Phe Lys Ile Ser Leu Gly Gln Gln Ser Gly Arg
225           100          105          110
226 Val Met Ala Leu Asp Ile Phe Ser Ser Tyr Thr Gly Arg Asp Ile Pro
227           115          120          125
228 Glu Leu Pro Glu Arg Glu Glu Gly Glu Glu Glu Ser Glu Leu Gln
229           130          135          140
230 Asn Thr Ala Tyr Ser Asn Trp Asn Gln Pro Arg Arg Val Glu Leu Trp
231           145          150          155          160
232 Arg Glu Pro Ser Lys Ser Leu Gly Ile Ser Ile Val Gly Gly Arg Gly
233           165          170          175
234 Met Gly Ser Arg Leu Ser Asn Gly Glu Val Met Arg Gly Ile Phe Ile
235           180          185          190
236 Lys His Val Leu Glu Asp Ser Pro Ala Gly Lys Asn Gly Thr Leu Lys
237           195          200          205
238 Pro Gly Asp Arg Ile Val Glu Ala Pro Ser Gln Ser Glu Ser Glu Pro
239           210          215          220
240 Glu Lys Ala Pro Leu Cys Ser Val Pro Pro Pro Pro Ser Ala Phe
241           225          230          235          240
242 Ala Glu Met Gly Ser Asp His Thr Gln Ser Ser Ala Ser Lys Ile Ser
243           245          250          255
244 Gln Asp Val Asp Lys Glu Asp Glu Phe Gly Tyr Ser Trp Lys Asn Ile
245           260          265          270
246 Arg Glu Arg Tyr Gly Thr Leu Thr Gly Glu Leu His Met Ile Glu Leu
247           275          280          285
248 Glu Lys Gly His Ser Gly Leu Gly Leu Ser Leu Ala Gly Asn Lys Asp
249           290          295          300
250 Arg Ser Arg Met Ser Val Phe Ile Val Gly Ile Asp Pro Asn Gly Ala
251           305          310          315          320
252 Ala Gly Lys Asp Gly Arg Leu Gln Ile Ala Asp Glu Leu Leu Glu Ile
253           325          330          335
254 Asn Gly Gln Ile Leu Tyr Gly Arg Ser His Gln Asn Ala Ser Ser Ile
255           340          345          350
256 Ile Lys Cys Ala Pro Ser Lys Val Lys Ile Ile Phe Ile Arg Asn Lys
257           355          360          365
258 Asp Ala Val Asn Gln Met Ala Val Cys Pro Gly Asn Ala Val Glu Pro

```

**Please Note:**

Use of n and/or Xaa have been detected in the Sequence Listing. Please review the Sequence Listing to ensure that a corresponding explanation is presented in the <220> to <223> fields of each sequence which presents at least one n or Xaa.

VERIFICATION SUMMARY

PATENT APPLICATION: US/09/502,698

DATE: 07/05/2000

TIME: 12:52:38

Input Set : A:\Sequence.txt

Output Set: N:\CRF3\07052000\I502698.raw

L:894 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:13

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